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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,126	05/31/2006	Euijoon Yoon	504478.25	2554
27128 7590 11/15/2010 HUSCH BLACKWELL LLP 190 Carondelet Plaza Suite 600 ST. LOUIS, MO 63105				
EXAMINER CRAWFORD, LATANYA N				
ART UNIT 2813		PAPER NUMBER		
NOTIFICATION DATE 11/15/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto-sl@huschblackwell.com

### Office Action Summary

**Application No.**

10/596,126

**Applicant(s)**

YOON ET AL.

**Examiner**

LATANYA CRAWFORD

**Art Unit**

2813

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/31/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 13, 14 and 16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 12, 15 and 17-23 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 31 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is in response to the correspondence filed on 8/31/2010. Currently, claims 11, 12, 15, & 17-23 are pending, claims 1-10 are withdrawn, and claims 13-14, & 16 are cancelled.

#### ***Election/Restrictions***

2. This application is in condition for allowance except for the presence of claims 1-10 directed to invention non-elected without traverse.

#### ***Ex parte Quayle***

3. This application is in condition for allowance except for the following formal matters:

#### ***Specification***

4. The abstract of the disclosure is objected to because of the term "comprising".  
Correction is required. See MPEP § 608.01(b).
5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities: the abstract contains an expression inconsistent with respect to the remaining disclosure, in line 2 of the abstract, states:  $Al_xGa_yIn_{1-x-y}N$  ( $0 < x < 1, 0 < y < 1, 0 < x+y < 1$ ) and should read:  $Al_xGa_yIn_{1-x-y}N$  ( $0 \leq x \leq 1, 0 \leq y \leq 1, 0 < x+y \leq 1$ ). Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Notice of Allowance***

7. Claims 11, 12, 15, & 17-23 are allowed.

8. The following is an examiner's statement of reasons for allowance: The prior art of record does not anticipate nor render obvious limitations of the base claim 11 including: wherein the In-rich InGa<sub>N</sub> quantum well layer comprises an In-rich region formed of  $In_xGa_{1-x}N$ , where x in the In-rich region of the quantum well layer is greater than 0.5 and less than or equal to 0.8, a first compositional grading region with In content increasing between the top layer of  $Al_xGa_yIn_{1-x-y}N$  ( $0 \leq x \leq 1, 0 < y \leq 1, 0 < x+y \leq 1$ ) and the In rich region, and a second compositional grading region with In content decreasing between the In-rich region and the additional nitride semiconductor layer wherein the second compositional grading region substantially overlies the first compositional grading region, wherein the light emitting device is configured to emit ultraviolet light using said In-rich InGa<sub>N</sub> quantum well layer in combination with the remaining elements of the claim was not found in prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LATANYA CRAWFORD whose telephone number is (571)270-3208. The examiner can normally be reached on Monday-Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Landau can be reached on (571)-272-1731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C. Landau/  
Supervisory Patent Examiner, Art  
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/LaTanya Crawford/  
Examiner, Art Unit 2813